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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/721,179
Filing Date: November 26, 2003
Appellant(s): BANG, JONG CHUL

Carol Druzbeck
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 8/7/08 appealing from the Office action mailed 1/14/08.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,925,273	Sherrill	7-1999
4,700,495	DREWS et al	10-1987

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6, 7, 9, 20, 37, 38, 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherril (5925273) in view of Drews et al (4700495). Sherril discloses independent first and second coil arrays provided in the air passage (col. 3, lines 22-30), the first coil array crosses the plate ... such that a plurality of first coils of the first coil array are ... positioned in the upper and lower passages, and the second coil array crosses the plate ... such that a plurality of second coils of the second coil array are ... positioned in the upper and lower passages, the plurality of first coils of the first coil array are positioned at a predetermined distance from a corresponding plurality of second coils of the second coil array (fig. 2), the first coil array is symmetrical to the second coil array along a predetermined line of symmetry of the air passage (fig. 2, col. 3, lines 10-12), the plurality of the first coil array are electrically connected as a single unit and the plurality of second coils of the second coil array are electrically connected as a single unit that is separate from the first coil array (fig. 2), the first and second coil arrays each comprise a plurality of coils provided at upper and lower portions of each coil array (fig. 2), the plurality of coils of the first coil array are positioned at a predetermined interval along an air flow direction from the corresponding plurality of coils of the second coil array (fig. 2), the first and second coil arrays are configured to be separately controlled (col. 3, lines 22-30). Sherril discloses applicant's invention substantially as claimed with the exception of alternately, multiple times, multiple times so as to alternately position, the

first and second coil arrays are configured to alternately cross the plate so as to form a zigzag pattern, wherein the first coil array comprises a plurality of first coils alternately positioned in the upper and lower passages, and the second coil array comprises a plurality of second coils alternately positioned in the upper and lower passages such that the first and second coils positioned in the upper passage form an alternating pattern, and the first and second coils positioned in the lower passage e form an alternating pattern, A dryer, comprising: a cabinet; a drum provided in the cabinet and configured to be in rotational communication with a motor; and a heater assembly coupled to the drum, comprising: a heater case having an air passage formed therein; a plate positioned in the heater case so as to partition the air passage into an upper passage and a lower passage, the upper and lower portions are positioned along centerlines of the upper and lower passages, respectively, the plate is positioned along the predetermined line of symmetry of the air passage, and a span of the first coil array overlaps a span of the second coil array, upper and lower portions of each of the first and second coil arrays are positioned along centerlines of the upper and lower passages, each of the plurality of first coils is positioned substantially directly across from a corresponding second coil of the plurality of second coils on the opposite side of the plate, and wherein the upper and lower portions of each of the first and second coil arrays positioned along centerlines of the upper and lower passages respectively, at least one of the plurality of first coils is positioned between two adjacent second coils, and at least one of the plurality of second coils is positioned between two adjacent first coils in each of the upper and lower passages. Drew teaches A dryer, comprising: a cabinet; a drum provided in the cabinet and configured to be in rotational communication with a motor; and a heater assembly coupled to the drum (fig. 2), comprising: a heater case having an air passage formed

therein (fig. 3); a plate positioned in the heater case so as to partition the air passage into an upper passage and a lower passage (84, fig. 3), the upper and lower portions positioned along centerlines of the upper and lower passages, respectively (fig. 3), the plate is positioned along the predetermined line of symmetry of the air passage (fig. 3), and a span of the first coil array overlaps a span of the second coil array (Fig. 6, When viewed from the plan view, fig. 6, the spans overlap. The spans occupy a common area.) for the purpose of drying clothes. It would have been obvious to one of ordinary skill in the art to modify Sherrill by including A dryer, comprising: a cabinet; a drum provided in the cabinet and configured to be in rotational communication with a motor; and a heater assembly coupled to the drum, comprising: a heater case having an air passage formed therein; a plate configured to partition the air passage into an upper passage and a lower passage, the upper and lower portions positioned along centerlines of the upper and lower passages, respectively, the plate is positioned along the predetermined line of symmetry of the air passage, and a span of the first coil array overlaps a span of the second coil array as taught by Drews for the purpose of drying clothes so that the marketability of the product is improved. Drews in view of Sherrill discloses applicant's invention substantially as claimed with the exception of multiple times, alternately, multiple times so as to alternately position, upper and lower portions of each of the first and second coil arrays positioned along centerlines of the upper and lower passages, each of the plurality of first coils is positioned substantially directly across from a corresponding second coil of the plurality of second coils on the opposite side of the plate, and wherein the upper and lower portions of each of the first and second coil arrays positioned along centerlines of the upper and lower passages respectively, the first and second coil arrays are configured to alternately cross the plate so as to form a zigzag

pattern, wherein the first coil array comprises a plurality of first coils alternately positioned in the upper and lower passages, and the second coil array comprises a plurality of second coils alternately positioned in the upper and lower passages such that the first and second coils positioned in the upper passage form an alternating pattern, and the first and second coils positioned in the lower passage e form an alternating pattern, at least one of the plurality of first coils is positioned between two adjacent second coils, and at least one of the plurality of second coils is positioned between two adjacent first coils in each of the upper and lower passages. At the time the invention was made it would have been an obvious matter of design choice to a person of ordinary skill in the art to have multiple times, alternating, multiple times so as to alternately position, upper and lower portions of each of the first and second coil arrays positioned along centerlines of the upper and lower passages, each of the plurality of first coils is positioned substantially directly across from a corresponding second coil of the plurality of second coils on the opposite side of the plate, and wherein the upper and lower portions of each of the first and second coil arrays positioned along centerlines of the upper and lower passages respectively, the first and second coil arrays are configured to alternately cross the plate so as to form a zigzag pattern, wherein the first coil array comprises a plurality of first coils alternately positioned in the upper and lower passages, and the second coil array comprises a plurality of second coils alternately positioned in the upper and lower passages such that the first and second coils positioned in the upper passage form an alternating pattern, and the first and second coils positioned in the lower passage e form an alternating pattern, at least one of the plurality of first coils is positioned between two adjacent second coils, and at least one of the plurality of second coils is positioned between two adjacent first coils in each of the upper and lower passages, since

shifting the location of parts of a device and duplicating working parts of a device involves only routine skill in the art.

Claims 10-13, 15, 16, 18, 21, 23, 39, 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherrill (5925273). Sherrill discloses a heater case having an air passage formed therein (fig. 1); a plate that partitions the air passage into an upper passage and a lower passage (14, fig. 2); and independent first and second coil arrays provided in the air passage (22a, 22b, fig. 2), a plurality of first coils of the first coil array are positioned at a predetermined distance from a corresponding plurality of second coils of the second coil array (fig. 2), the plurality of the first coil array are electrically connected as a single unit and the plurality of second coils of the second coil array are electrically connected as a single unit that is separate from the first coil array (fig. 2), the first and second coil arrays each comprise a plurality of coils provided at upper and lower portions of each coil array (fig. 2), the plurality of first coils of the first coil array are positioned at a predetermined interval in an airflow direction from the corresponding plurality of second coils of the second coil array (fig. 2), the first and second coil arrays are configured to be separately controlled (col. 3, lines 22-30), a dryer comprising the heater assembly of claim 10 (col. 2, line 45), the first coil array is symmetrical to the second coil array along a predetermined line of symmetry of the air passage (fig. 2), a heater case (fig. 1); a plate provided in the case and configured to partition the case into an upper portion and a lower portion (14, fig. 2); a first coil array comprising a plurality of upper first coils, the plurality of first coils comprising a plurality of upper first coils positioned in the upper portion of the case, and a plurality of lower first coils positioned in the lower portion of the case (fig. 2); and a second coil array comprising a plurality of second coils, the plurality of second coils comprising

a plurality of upper second coils positioned in the upper portion of the case, and a plurality of lower second coils positioned in the lower portion of the case (fig. 2) wherein the first coil array is symmetrical to the second coil array about the plate (fig. 2), wherein the first coil array is configured to operate as a single unit (fig. 2), The second coil array is configured to operate as a single unit independent of the first coil array, (col. 3, lines 22-28), the heater of claim 24 (fig. 2), and a span of the first coil array overlaps a span of the second coil array (When viewed from the right side of figure 2, the spans overlap. The spans occupy a common area), the independent first and second coil arrays each ... cross the plate between the upper and lower passages ... so as to form the ... patterns of first and second coils in the upper and lower passages. . Sherrill discloses applicant's invention substantially as claimed with the exception of and wherein the plurality of first coils are arranged in the first coil array such that the upper and lower first coils form an alternating pattern, The first coil array is configured to cross the plate each time the first coil array alternates between the upper and lower first coils, the alternating pattern formed by the upper and lower first coils is a mirror image of the alternating pattern formed by the upper and lower second coils, and wherein the plurality of second coils are arranged in the second coil array such that the upper and lower second coils form an alternating pattern, the second coil array is configured to cross the plate each time the second coil array alternates between the upper and lower second coils, the first and second coil arrays each form a zigzag pattern, the first and second coil arrays are configured to alternately cross the plate so as to form a zigzag pattern, the plurality of upper first and second coils form an alternating pattern in the upper portion of the case, and the plurality of lower first and second coils form an alternating pattern in the lower portion of the case, the first and second coil arrays are configured

to alternately to cross the plate between the upper and lower passages, the first coil array comprise a plurality of first coils alternately positioned in the upper and lower passages, and the second coil array comprises a plurality of second coils alternately positioned in the upper and lower passages such that the first and second coils positioned in the upper passage form alternating pattern in the upper passage, and the first and second coils positioned in the lower passage form an alternating pattern in the lower passage, a coil of the first coil array is positioned between each set of adjacent second coils, in the lower passage and a second coil of the second coil array is positioned between each set of adjacent first coils in the upper passage, a coil of the first coil array is positioned between each set of adjacent second coils in the lower passage, and a second coil of the second coil array is positioned between each set of adjacent first coils in the upper passage, each of the plurality of first coils is positioned substantially directly across from a corresponding second coil of the plurality of second coils on the opposite side of the plate, the plate is positioned along the predetermined line of symmetry of the air passage, upper and lower portions of each coil array positioned along centerlines of the upper and lower passages, respectively, at least one of the plurality of first coils is positioned between two adjacent second coils, and at least one of the plurality of second coils is positioned between two adjacent first coils in each of the upper and lower passages. At the time the invention was made it would have been an obvious matter of design choice to a person of ordinary skill in the art to have a plurality of first and second coils positioned, coil arrays, alternating etc, because applicant has not disclosed that the number or location provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with either the quantity and location of Sherril

since shifting the location of parts of a device or changing a quantity involves only routine skill in the art.

Claims 24-29, 31, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherrill (5925273). Sherrill discloses a heater case having an air passage formed therein (fig. 1); a plate provided in the case so as to partition the air passage into an upper passage and a lower passage (14, fig. 2); and independent first and second coil arrays provided in the air passage (22a, 22b, fig. 2), a plurality of first coils of the first coil array are positioned at a predetermined distance from a corresponding plurality of second coils of the second coil array (fig. 2), each of the first and second coil arrays is electrically connected as a single unit (fig. 2), the first and second coil arrays each comprise a plurality of coils provided at upper and lower portions of each coil array (fig. 2), the plurality of first coils of the first coil array are positioned at a predetermined interval in an airflow direction from the corresponding plurality of second coils of the second coil array (fig. 2), the first and second coil arrays are configured to be separately controlled (col. 3, lines 22-30), the first and second coil arrays are configured to alternately to cross the plate between the upper and lower passages (col. 3, lines 22-30), a dryer comprising the heater assembly of claim 10 (col. 2, line 45), the first coil array is symmetrical to the second coil array along a predetermined line of symmetry of the air passage (fig. 2), a heater case (fig. 1); a plate provided in the case and configured to partition the case into an upper portion and a lower portion (14, fig. 2); a first coil array comprising a plurality of upper first coils, the plurality of first coils comprising a plurality of upper first coils positioned in the upper portion of the case, and a plurality of lower first coils positioned in the lower portion of the case (fig. 2); and a second coil array comprising a plurality of second coils, the plurality of second coils comprising

a plurality of upper second coils positioned in the upper portion of the case, and a plurality of lower second coils positioned in the lower portion of the case (fig. 2), wherein the first coil array is symmetrical to the second coil array about the plate (fig. 2), wherein the first coil array is configured to operate as a single unit, (fig. 2), The second coil array is configured to operate as a single unit independent of the first coil array, (col. 3, lines 22-28), the heater of claim 24 (fig. 2), and a span of the first coil array overlaps a span of the second coil array (When viewed from the right side of figure 2, the spans overlap. The spans occupy a common area). Sherrill discloses applicant's invention substantially as claimed with the exception of the plurality of upper first and second coils are arranged in the upper portion such that an upper first coil is disposed between two upper second coils and an upper second coil is disposed between two upper first coils so as to form an alternating pattern of upper first and second coils in the upper portion, and the plurality of lower first and second coils are arranged in the lower portion such that a lower first coil is disposed between two lower second coils and a lower second coil is disposed between two lower first coils so as to form an alternating pattern of lower first and second coils in the lower portion, and configured to alternately cross the plate between the upper and lower passages, and wherein the plurality of first coils are arranged in the first coil array such that the upper and lower first coils form an alternating pattern, The first coil array crosses the plate each time the first coil array alternates between the upper and lower first coils so as to alternately position first coils in the upper and lower passages, and wherein the plurality of second coils are arranged in the second coil array such that the upper and lower second coils form an alternating pattern, the alternating pattern formed by the upper and lower first coils is a mirror image of the alternating pattern formed by the upper and lower second coils, the second coil array is

configured to cross the plate each time the second coil array alternates between the upper and lower second coils, the first and second coil arrays each form a zigzag pattern, the first and second coil arrays are configured to alternately cross the plate so as to form a zigzag pattern, the plurality of upper first and second coils form an alternating pattern in the upper portion of the case, and the plurality of lower first and second coils form an alternating pattern in the lower portion of the case. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the plurality of upper first and second coils are arranged in the upper portion such that an upper first coil is disposed between two upper second coils and an upper second coil is disposed between two upper first coils so as to form an alternating pattern of upper first and second coils in the upper portion, and the plurality of lower first and second coils are arranged in the lower portion such that a lower first coil is disposed between two lower second coils and a lower second coil is disposed between two lower first coils so as to form an alternating pattern of lower first and second coils in the lower portion, and configured to alternately cross the plate between the upper and lower passages, and wherein the plurality of first coils are arranged in the first coil array such that the upper and lower first coils form an alternating pattern, The first coil array crosses the plate each time the first coil array alternates between the upper and lower first coils so as to alternately position first coils in the upper and lower passages, and wherein the plurality of second coils are arranged in the second coil array such that the upper and lower second coils form an alternating pattern, the alternating pattern formed by the upper and lower first coils is a mirror image of the alternating pattern formed by the upper and lower second coils, the second coil array is configured to cross the plate each time the second coil array alternates between the upper and lower second coils, the first and second

coil arrays each form a zigzag pattern, the first and second coil arrays are configured to alternately cross the plate so as to form a zigzag pattern, the plurality of upper first and second coils form an alternating pattern in the upper portion of the case, and the plurality of lower first and second coils form an alternating pattern in the lower portion of the case, since shifting the location of parts of a device involves only routine skill in the art.

(10) Response to Argument

ARGUMENT

I.

Rejection Under 35 U.S.C. ~103(a) over Sherrill and Drews

The applicant argues that Sherrill neither discloses nor suggest that the first heater element 10a crosses the plate 14 multiple times, nor that the second heater element 10b crosses the plate 14 multiple times, as do the first and second coil arrays recited in independent claim 1. As can be seen from the rejection the multiple crossings were rejected under design choice. The applicant also argues that Sherrill neither discloses nor suggests that the coils of the first and second elements 10a and 10b form an alternating pattern, the coils of the first element 10a are positioned directly across the plate 14 from the coils of the second element 10b. These limitations were rejected under design choice. The applicant is attempting to distinguish his invention from the prior art through claim language dealing with the location of various parts. Both the applicant's invention and the cited references function in the same manner. The applicant's specification states that his invention overcomes problems of the prior art by stating in paragraphs 8 through 10 "[0008] First of all in the heater assembly, when power is applied to both of the upper and lower coil arrays, coils of the upper and lower coil array generate heat. Air

flowing over the plate passes through the coils of the upper coil array to be heated and is then discharged. Air flowing under the plate passes through the coils of the lower coil array to be heated and is then discharged. Meanwhile, if the power is applied to the upper coil array only, the air flowing over the plate is heated by the coils of the upper coil array to be discharged later. Yet, the air flowing under the plate fails to be heated. [0010] In the related art heater assembly of the dryer, if the power is applied to one of the upper and lower coil arrays, temperature rise is concentrated on the heater case in the vicinity of the turned-on coil array only. The air around the turned-off coil array fails to be heated and is then discharged. Hence, drying performance is reduced. “

Sherril solves this problem. In column 3, lines 22-30 it states:

The two heater elements 10(a&b) are arranged on the plate 14 so that they are capable of heating air on both sides of the plate. Thus, when only one of the elements is energized, air on both sides of the plate is still being heated. With respect to the direction of air flow A, the first heater element 10a, with coil sections mounted on both sides, is positioned upstream of the similarly arranged second heater element 10b.

Consequently, the reference functions in the same manner as the applicant's invention. The applicant has attempted to overcome this rejection through various claim terms involving multiple crossings, alternating patterns, and other language involving the location of the coils.

The applicant states that “The Office Action combines Sherrill with Drews, asserting that Drews allegedly teaches the claimed multiple crossings of the plate.” The examiner disagrees. Drews was not used to teach the multiple crossings. The multiple crossings were rejected under design choice. The applicant argues that Drews does not disclose nor suggest first and second coil arrays having first and second coils that form alternating patterns above and below the plate.

Per the rejection Sherril discloses the first and second coil arrays having first and second coils as indicated by the coil sections in the citation and figure. The alternating pattern was rejected under design choice.

Dependent Claim 6

Regarding the claim limitation of the upper and lower portions positioned along centerlines of the upper and lower passages, respectively, Drews teaches this claim limitation. Drews teaches the plate 84 and the upper and lower portions which are above and below the plate. The plate divides the passageway into upper and lower passages. The passages inherently have a centerline and the coil arrays are positioned “along” this centerline.

Dependent Claim 20

The applicant argues that Sherril neither discloses nor suggests that the plate is positioned along the line of symmetry. Drew teaches these claim limitations. The passage would inherently have a line of symmetry. As can be seen the plate is positioned “along” the line of symmetry. The applicant argues that Drews necessarily neither discloses nor suggests a second element. However, Sherril was used to disclose the two coil arrays. The examiner believes the references disclose or teach the limitations as claimed. By the nature of the applicant’s arguments, the applicant appears to be arguing against the references individually. In response to applicant’s arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references.

Dependent claim 38

The applicant argues that Sherrill and Drews, either alone or in combination, neither disclose nor suggest the features of that at least one of the plurality of first coils is positioned

between two adjacent second coils, and at least one of the plurality of second coils is positioned between two adjacent first coils in each of the upper and lower passages. Sherril was used to disclose the coil arrays and passages. Each coil array comprises coils. The position of the coils was rejected under design choice as to shift the location of parts of a device involves only routine skill in the art.

Independent claim 37

The applicant argues that Sherril neither discloses nor suggests that the first and second heater element and the first and second coil arrays crosses the plate multiple times or the coils of the first and second coil arrays and first and second elements form an alternating pattern or the coils of the first element are positioned directly across from the plate for the coils of the second element as are the plurality of first and second coils. The multiple crossings, alternating patterns and the position were rejected under design choice, since shifting the location of parts of a device and duplicating working parts of a device involves only routine skill in the art. As discussed earlier the examiner has shown that Sherril functions in the same manner as the applicant's apparatus.

Dependent Claim 40

The applicant argues that Sherril neither discloses nor suggests that a coil of the first heater element 10a is positioned between two coils of the second heater element 10b, nor that a coil of the second heater element 10b is positioned between two coils of the first heater element 10a, either above or below the plate 14. The position of the coils was rejected under design choice, since shifting the location of parts of a device and duplicating working parts of a device involves

only routine skill in the art. As discussed earlier the examiner has shown that Sherril functions in the same manner as the applicant's apparatus.

II. Rejection Under 35 U.S.C. 103(a) over Sherrill

Independent Claim 10

The applicant argues that Sherril neither discloses nor suggests that an upper coil from the first heater element 10a is positioned between two upper coils from the second heater element 10b, nor that an upper coil from the second heater element 10b is positioned between two upper coils from the first heater element 10a, as are the upper first and second coils recited in independent claim 10, a lower coil from the first heater element 10a is positioned between two lower coils from the second heater element 10b, nor that a lower coil from the second heater element 10b is positioned between two lower coils from the first heater element 10a, as are the lower first and second coils and thus , Sherrill necessarily neither discloses nor suggests that the upper coils of the first and second heater elements 10a and 10b form an alternating pattern above the plate 14, and the lower coils of the first and second heater elements 10a and 10b form an alternating pattern below the plate 14, as do the upper and lower first and second coils recited in independent claim 10. The position of the coils, and the alternating pattern are rejected under design choice, since shifting the location of parts of a device or changing a quantity involves only routine skill in the art. As discussed earlier the examiner has shown that Sherril functions in the same manner as the applicant's apparatus. The applicant argues that the rearrangement of the coils of the first and second heater elements disclosed by Sherril would require a complete redesign that would significantly affect the structural, mechanical, and electrical integrity of Sherrils design. The examiner disagrees as to make the modifications that the applicant suggest

merely change the position and quantity of working parts of the device which involves only routine skill in the art. The applicant also argues that the claimed arrangements allow for uniform flow, distribution and discharge of heated air from the case into the drum, whether one coil is energized or both coils are energized and prevents the heater case from being heated locally and intensively even if power is applied to only one of the coil arrays. As discussed earlier the examiner has shown that Sherril functions in the same manner as the applicant's apparatus.

Dependent claim 15

The applicant argues that Sherrill is silent as to the relative positioning of the coils of the first and second heater elements 10a and 10b. The limitation of the centerlines was rejected under design choice, since shifting the location of parts of a device and duplicating working parts of a device involves only routine skill in the art. As discussed earlier the examiner has shown that Sherril functions in the same manner as the applicant's apparatus.

Dependent claim 21

The applicant argues that Sherrill neither discloses nor suggests that the first coil array is symmetrical to the second coil array along a predetermined line of symmetry of the air passage and the plate 14 is positioned along a line of symmetry, as recited in claim 21. The examiner disagrees as giving the claim language its broadest reasonable interpretation the reference reads on the claim language. The reference clearly discloses coils on either side of the plate. As can be seen from the figure the coils on either side of the plate are symmetrical to one another and the line of symmetry would be coincident with the plate. This line of symmetry would be "along"

the line of symmetry of the air passage. Therefore the plate would be positioned “along” the predetermined line of symmetry of the air passage.

Dependent claim 39

The applicant argues that the coils of the first heater element cannot be positioned between two coils of the second heater element, nor can two coils of the second heater element be positioned between two coils of the first heater element. The position of the coils are rejected under design choice, since shifting the location of parts of a device involves only routine skill in the art. As discussed earlier the examiner has shown that Sherril functions in the same manner as the applicant’s apparatus.

Dependent Claim 41

The applicant argues that the independent first and second coil arrays each alternately cross the plate between the upper and lower passages multiple times so as to form the alternating patterns of first and second coils in the upper and lower passages and that Sherril’s heater assembly crosses only once. The pattern and multiple crossings were rejected under design choice, since shifting the location of parts of a device or changing a quantity involves only routine skill in the art. As discussed earlier the examiner has shown that Sherril functions in the same manner as the applicant’s apparatus.

Independent claim 24

The applicant argues that “Sherrill neither discloses nor suggests that the upper coils of the first and second heater elements 10a and 10b form an alternating pattern above the plate 14, and the lower coils of the first and second heater elements 10a and 10b form an alternating pattern below

the plate 14, as do the upper and lower first and second coils recited in independent claim 24. Likewise, Sherrill neither discloses nor suggests that a lower coil from the first heater element 10a is positioned between two lower coils from the second heater element 10b, nor that a lower coil from the second heater element 10b is positioned between two lower coils from the first heater element 10a, as are the lower first and second coils recited in independent claim 24. Thus, Sherrill necessarily neither discloses nor suggests that the upper coils of the first and second heater elements 10a and 10b form an alternating pattern above the plate 14, and the lower coils of the first and second heater elements 10a and 10b form an alternating pattern below the plate 14, as do the upper and lower first and second coils recited in independent claim 24.” The alternating pattern was rejected under design choice, since shifting the location of parts of a device or changing a quantity involves only routine skill in the art. As discussed earlier the examiner has shown that Sherril functions in the same manner as the applicant’s apparatus. The applicant argues that the rearrangement of the coils of the first and second heater elements disclosed by Sherril would require a complete redesign that would significantly affect the structural, mechanical, and electrical integrity of Sherrills design. The examiner disagrees, as to make the modifications that the applicant suggest, merely change the position and quantity of working parts of the device which involves only routine skill in the art. The applicant also argues that the claimed arrangements allow for uniform flow, distribution and discharge of heated air from the case into the drum, whether one coil is energized or both coils are energized and prevents the heater case from being heated locally and intensively even if power is applied to only one of the coil arrays. As discussed earlier, the examiner has shown that Sherril functions in the same manner as the applicant’s apparatus.

Dependent claim 26

The applicant argues that Sherrill does not form an alternating pattern. The alternating pattern was rejected under design choice, since shifting the location of parts of a device involves only routine skill in the art. As discussed earlier the examiner has shown that Sherril functions in the same manner as the applicant's apparatus.

Dependent Claim 27

Sherril discloses that coil arrays are independent (column 3, lines 22-30). The alternating pattern was rejected under design choice, since shifting the location of parts of a device involves only routine skill in the art. As discussed earlier the examiner has shown that Sherril functions in the same manner as the applicant's apparatus.

Dependent claim 28

The applicant argues that Sherril does not form an alternating pattern. The alternating pattern was rejected under design choice, since shifting the location of parts of a device involves only routine skill in the art. As discussed earlier the examiner has shown that Sherril functions in the same manner as the applicant's apparatus.

Dependent claim 29

The applicant argues that the second coil array is configured to cross the plate each time the second coil array alternates between the upper and lower second coils. The requirement for the location of crossing was rejected under design choice, since shifting the location of parts of a device involves only routine skill in the art. As discussed earlier the examiner has shown that Sherril functions in the same manner as the applicant's apparatus.

Dependent claim 31

The applicant argues that the Sherril heater crosses the plate only once and thus does not form a zigzag pattern. The applicant has merely shifted the location of the coils to form a zig zag pattern. The arrangement of parts was rejected under design choice, since shifting the location of parts of a device involves only routine skill in the art. As discussed earlier the examiner has shown that Sherril functions in the same manner as the applicant's apparatus.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Kenneth B Rinehart/

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